

#607

100 Sheets

3 in x 5 in

76 mm x 127 mm

No. 14011

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70972 14011

Roaring Spring • Top Scholar—Roaring Spring, Pa. 16673

Arthur Cronquist
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10603

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825 Rua Recife
(Adrianoópolis)
em frente ao restaurante
Panorama.

Fone: 234-5095

U.607

Middle Sodan

1920 20 1921

HERBÁRIO

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Plant-animal analogy

Plant-animal comparison

Relationships: evolution to
taxonomic

Nature of species

Evolutionary trends- vegetative

Evolutionary trends- floral

The fossil record.

Historical systems

Modern systems- comparison

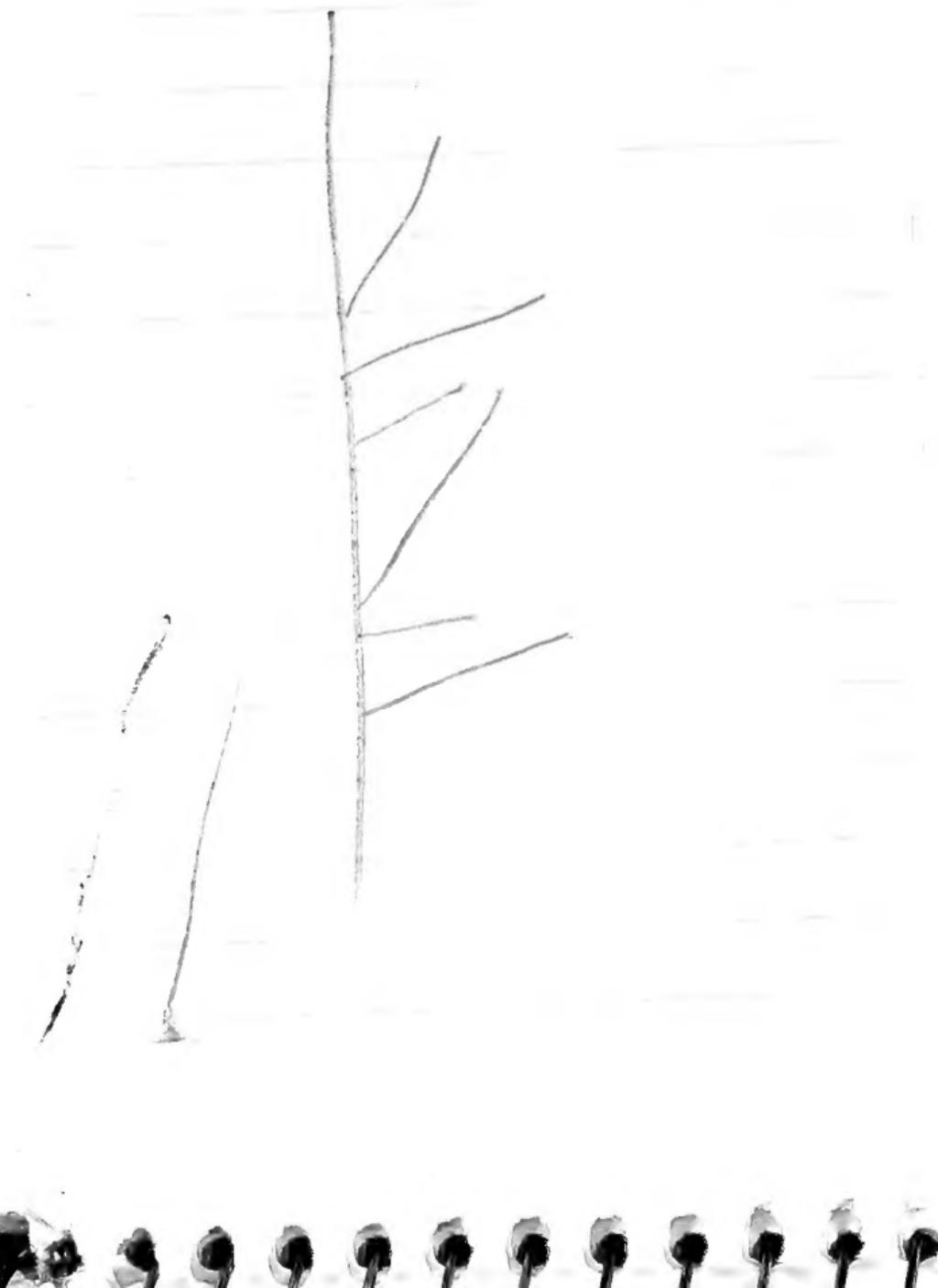
Magnoliidae- Arecaceae- Caryophyllales

Dilleniidae- Rosidae

Asteridae.

Monocots- origin, Alismatales

Monocots- other



1. The nature of taxonomy
2. Relationship - Tax - evol.
3. Plants
4. Species
5. Criteria for id?
- 6-7. Evol. from 8-9.
- 8-10. Evol. from 11-12.
11. Fossils
- 12-13. Host sp.?
- 14-15. Comparison modern
16. Magnol.
17. Hamamel.
18. Lycopodi.
- 19-20. Liliops.
- 21-31. 21-31
- 22-23. Asteridae

24- origin of mouse
25. Ahmet - Dec 2.
26. Comm. L.
27. 2, no. 'b'
28. L. 1, da

Ilse Walker
Division of Biogeology
INPA
C.P. 478
69.000 Manaus

(Post-Replication
repair in Meiosis)

Carminda da Cruz
Leandrin
Departamento de Biologia
Instituto de Biociências
Rio Claro - SP.

Literature reference
on fertilization in
Guettaria

for - Maria Cristina
de Carvalho

Also:



Meyen or Gymnospermae
to

onibus: Vila Buriti



p. 47. *Australiodoxa*

See *Doxa* in *Flora* 1943
p. 18 & p. 90, 1943.

2 mm. x 1.

p. 164, *Flora* 1943

p. 213 *Juglandaceae*.

Fossil fruit in Upper
Paleocene of England,
Family Juglandaceae,
like *Juglans* in origin.

p. 250. *Achatocarpus*

C-glycosyl flavonoids

p. 253. "of New World origin"
C-glycosyl

p. 270. *Mallotus*

C-glycosyl flavonoids,
various Aglycones

p 356 - *Bombus californicus*

pol. black with some white

non-flying in sun

p 358. *Adelgazania*

Chionanthodendronace few
firm flowers

100% yellow flowers

yellow flowers

p 409 - *Calochortus* yellow

yellow with orange

yellow with orange

yellow with orange

450

yellow flowers

453 - *Zygia* flowered and

ER dry soil

455. *Calochortus*

yellow from Upper 2000s
to 4000s

P 511 - line 3 "weak without."

P 547. *Cynometra*.

India, *Codiaceae*.

P 551 - *Hydroperidium*

weakly with scattered hair.

Hydroperidium is a

also - "Perenokhema,
mostly paratrichous,

P 511 - *Hydroperidium*

add senescent *Leiophyllaceae*,

Cupidothecace, *Kousseacea*,

Schmid puts *Platyscapacanthus*

here, and *Myrsinaceae*

4564. *Bryonia*

Leaves 1-26 mm per. lobe
5-75-100 mm l.

Opposite, *triangular*

Exstipulate

595. *Carex spicata*

Fls. 5-10 mm long, 2-3

in fibrous

spike; awl-shaped, 1-2 mm

~~620~~ 620. *Myrsinaceae*

Leaves 1-20 mm long

Opposite, *triangular*

2-3 mm long, 1-2 mm

Opposite, *triangular*

2-3 mm long, 1-2 mm

Opposite, *triangular*

2-3 mm long, 1-2 mm

Opposite, *triangular*

647- *Epilobium* 185 spp

653- *Combretaceae*.

Sometimes pollinated by
birds or monkeys.

650- I.e., the ovule is sessile
Sappho 185 spp.

669- *Coriaceae*.

Ornatest hilosomes or
compsiploids in the upper
with the micropyle below the
point of funicular attachment
and then off the axis

681- *O. pentadentata*.

Close to *Flagouriaea* on
pollen. See Lacrau-Callier 1952

1.623-0100000

Scorodocerops smalls a 2
garlic, like Ben Hause

Übung 9. Lernzettel

Allochthonous & *autochthonous*

P. 692. It is necessary to make
a new comparison, but 15
odd years is probably not
too long a period of time.
On the basis of this comparison,

1. *Pyrolytic* *reactions* *in* *solid* *phase*

732 - Bulgaria.

R-type sine hub in pl-

762. Linaceae (linea),
odd "or connate" much of
their length - or just
deeply so of "sheath"

763. Zygophyllaceae
" " " " " "

Young plants with small, thin
leaves, but older ones with
large, broad, deeply lobed
leaves

764. Pteridaceae

1. British Series 1900

Eocene of England

826. Oxalidaceae

linea, or stipules one,
and poorly vascularized.

923- Verbenaceae

old sunlit valley bottom

Neurolepis

734. Andrenaceae

Fls. purple

1000' sunlit valley bottom

Fls. purple - 1000' sunlit valley bottom

Fls. purple - 1000' sunlit valley bottom

757 - purple

1000' sunlit valley bottom

75 - purple

1000' sunlit valley bottom

1063 - Dipsacaceae

1000'

1000'

1031. Liverworts.
Heteromastix 5 -

1033. Liverworts.
Porella or Marchantia 6-8cm

~~1035-~~

1034. Potamogetonaceae
Plants common in submergents
and hydrophytes

1035. Hydrocharitaceae
Miyoshia...

1036. Ptotoliriaceae

1037. Ranunculaceae
Casuarina? Monocotious
Freycinetia? reneckeri

12044-*Chamaezameruloides*

1000' - 1000' - double

- *Chamaezameruloides*

- 1000' - 1000' - double

- *Chamaezameruloides*

- 1000' - 1000' - double

- *Chamaezameruloides*

- *Chamaezameruloides*

- 1000' - 1000' - double

- *Chamaezameruloides*

12044- *Chamaezameruloides*

1000' - 1000' - double

regular in the tree

also, bent 4 up.

A few instances and a few
others to 1000'.

University of Michigan

Department of English

Graduate Seminar

Bruce Nelson
234-5095

1884 - 11 May, 1985.

Washington Co., Utah

Laurea desert, ca 11 km.

S. of St. George, and 5 km. north
of the Colorado Plateau

Elev. ca. 800 m.

Rounded, bushy branching
shrub ca 3-6 dm. tall.

Flowers 16-20, 5-petaled
yellow at first, orange

badly damaged

- Craigqvist and Eliza collected
C. Please

After: - species

(Harvey & Gray)

A. Gray

Acuminate ca 10° 38.4

11885 ? & N. 11 May, 1985
Washington Co. Utah
Same place as 11884.

Isabella blue lavender,
with ~~the~~ rather obscure
C. magnifica line.

With the plants I
marked C. & N. were
collected. I. setosissima
with Eriogonum L.
Hesse.

Langloisia setosissima
(T. & G.) Greene

Langloisia

11886 C. & H. 11 May, 1963

Washington Co., Idaho.

Same place as 11874

Perennial with a deep scaly
apparent taproot, but possibly
clumped with other plants,

Selinocarpus novae-angliae

(Standley) Fowler & Turner

filicinaceae (5)

C N 11887 - May, 85

Same place as 11884.

Flowers 17-22, pinkish
to white. Heads reddening
when young, sweet at
anthesis

Chaenactis macrantha D.C. Eat.

Plants 20 cm. tall.

(10)

C. H. 11888 - 11 May, 1985

Mohave Co., Arizona.

Rocky, calcareous slopes in
the Paria-Coleցyne Zone, ca 28.
On road 1 km. south of Ft.
Kings, Utah.

Type of H., R. 12 W., near the
corner of sections 25, 26, 35, 36
Elev. about 4000 m.

Plants str. up to 1 m
tall, unpleasantly
aromatic. Corolla pale
blue-saucer.

Fls. in palm. 1/2 ft.

1

48.9

Phacelia palmeri (8)

C 111 1/889 11 May, 1985

Mohave Co., Arizona

Same place as 1/888.

Flowers yellow

Camissonia parryi (S. Wats.)
Raven

✓

Camissonia parryi (10)

C. + H. 11890 - 11 May, 1985
Mahave Co., 2000.

Same place as 11889.

Petals 10, bright yellow
inside, pale outside.

Mentzelia lindleyi

(M. E. - 2000 - 11890)

Mentzelia (10)

C & H. 11891. 11 May 1935 1
Muhsan Co. Arizona
Rocky, calcareous slopes in
Juniper-Juniper zone,
ca 36 road miles N.
Kings Range, Utah. Tax 4001,
E. 12 W, S. 27. In 1110 m.
sands yellow, 15-20 mostly
13' (s), sandstone bed as
few as 12.

✓
Gaillardia parryi Greene

Red flowered variety

C & N. 11892, 1147a, 1985

Monahans, early Calcareous slopes
steps in piñon-juniper

June, ca 38 ~~km~~ road km

at St George, Twp 39 N,
12 W, S. 2, elev. 4,500 ft.

Flowers yellow.

Lesquerella arizonica

S. W. St.

festucella (?)

C. & H. 11893 12 May, 1885
Mohave Co., Ariz.,
Calcareous gravelly soil in
Pinyon-juniper woodland
63 rods N. W. of
L. Shopp 1162 to 1414 ft.
38° 7' N. 111° 51' 32" E.
Elev. ca. 1550 m.

Fls. to several, I have not
seen any described, but
are probably *Phacelia*.

Phacelia var. *hirsutissima* J. C. Gray

Primer 11893 (12 May, 1885) ✓
10

C & N 1182 - 17 May, 1902.

Maricopa Co., Arizona
Pleasanton, rocky gravelly soil
in prairie occasional on 6 q
road down south of St. George,
Colo., Trap 38° E., R. 13 W., S. 24.
Elev. sea 1550 m.

Flowers bluish-white or
pale blue lavender.

Dichotomous flower
Stems erect.

Dichotomous flower ②

C. + H. 11895 12 May, 1985
Same place as 11 ~~894~~
Rays 5-8, white

Layia glandulosa (Hook.) Hook. +
Arn.

Layia glandulosa (5)

CJN 11896 12 May, 1935

Tucson Co., Arizona

Calcareous gravel, mostly
with ~~large~~ ^{large} ~~small~~
rocks ab. 65

at 11,000 ft. ab.

1. 1516, Chap 33 N.,

1. 1516, Chap. 157 N.

Calcareous gravel, mostly

small & coarse pieces of

calcareous rock.

Pentstemon pachyphyllus

A. Gray ex Rydb.

var. *congestus* (E. Jones) N. Holmgren

✓

Pentstemon pachyphyllus (10)

C. L. H. 11897 Same
place as 11396.

Petals caeruleous,
ascending, not spreading,
very pale, nearly white
with some more evident
blue lines at the base.

Linum lewisii Pursh

Same locality. ✓ Q

C & H. 11898 - collected in early
12 May, 1985. Spec. number
mentionable on rocky calcareous
substrate, Road Canyon,
ca 68 road km. south of
Lt. George, Utah.
7 sq. 38 N, R, 13 W., S. 21
Elev. ca 4500 m. Broadly
rounded shrubs 4-8 m. tall,
with cymes - rays 4-11,
often irregularly spaced,
about 1 cm. long.

Haplopappus *variolosus* DC.
var. *interior* (Coryne) M. E. Jones

Haplopappus (?)

C4411899-12 May 1985

Mohave Co. Arizona

Juniperus - Colorado type -
Chrysothamnus -

the mouth of Road
Canyon, on rocky,
calcareous substrate,
ca 69 road km south
of Mt. Kaibab Utah.

Twp 38 T., R. 13 W., S. 20
Elev 1320 + m. Shrub 1-1.5
m. tall & 1-2 m. wide

Eriodictyon angustifolium Hutt.

Eriodictyon (10)

C + N. 11900 - 12 May, 1983

McKee Co., Ariz. In very sandy
soil in open ~~open~~ pinyon-
juniper oak scrub community
ca 12.82 road km.

S. of Ft. Verde, High Trop.
33° 11', E. 14W. S. 29.
Elev. ca 1300 m.

Flowers bright yellow,
23-34.

Hymenopappus filifolius Hook.
var. *tomentosus* (Rydb.) Turner

23-34

6572.1

Hymenopappus ⑩

C 8411701 12 May, 1965

Platte Co., Mo.

Blackbrush community
along Littlewood
Wash, north branch,

at 5000 ft. elevation

Wheat in sprouts.

Locality: Twp. 38 N., R. 15

W. S. 8 sec. at 1100 ft.

Single, small, tapered,
first lived, apparently
biennial plants. Flowers
white in some plants,
pink in others, on others.

Cirsium neomexicanum A. Gray
senior, C. L. Hitchc.

✓

Cirsium 5 bush 1/2 in. 2
T. 1 wheat 2

Champlain Mts. 17 May, 1985

Albion Co., N.Y.

Rocky, calcareous open
slopes with Sago Larch and
Scitulus, Ferns and
Lorana. Twp. 38 N.,
Range 11 W. S. 7. Elev.
just under 1600 m. Plants

mostly single stemmed,
short lived appearing
benumbed, but no new
ones there. Heads
white, large (3-4 cm)
wide at 2, at first spreading, then
ca. 52 nod. lvs. south
of Mt. Sago, little
Hymenoxys cockeri (A. Gray) Cockerell
var. cooperi

reflexed

Hymenoxys cockeri (9) ^{6/10/85}

Conquist 11903

13 May, 1985. Mohave Co.,
Ariz. Same place as
11932. Plants perennial,
fibrous-rooted, mostly
single-stemmed. Flowers
blue except for the
ivory or nearly white
upper petals.

Delphinium parissii A. Gray

Delphinium (5)

11904-13 May, 1985

Mohave Co., Arizona

Same place as 11902. Petals
sticky, glaucous. Petals
with a long claw and
short, purplish-brown,
increased. Deltoid & blade
barely surpassing the
strongly 10-ribbed
calyx.

Silene antirrhina L.

Canephall. ⑦

11935 - 13 May, 1985

Wallowa Co., Oregon

Rocky, volcanic side in
western juniper wood-
land with a few
Artemesia and Lupinus, and
at the base of a small
of Mt. Turnbull.

Twp. 35 N., R. 8 W., S. 33

Elev. ca 2000m. Plants

biennial, single stemmed
or seldom with 2 or 3 stems.
Herbage spreading hairy
- 7 thl. + 20, glaucous. Gil-
lous and glaucous. Flowers
lavender.

Arabis gracilipes Greene

in cult.

(10)

11906 - 14 May, 1984

Mohave Co., Arizona.

North facing wash in
cliffs in Tonopah Valley,
just to the southwest
of Vulcan's Throne, ca
110 ~~road~~ miles of
Fredonia. Twp 33 N.,
R. 7 W., S. 31. Elevation

ca 1250 m. Intricately
branched, rounded shrub 2-3
m. tall. Infinitely shrubby,
some of last year's flowering
branches still persistent

Cryptantha racemosa (S. Wats.)
Greene

Cryptantha

11907-14 May, 1985

Maricopa Co., Arizona.

Among volcanic rocks just
to the southwest of
Volcanic Throw, ca 110 road
km. SW of Fredonia.
T 32 N R 27 W S 31
(ca. ca 1250 m. Frosty
morning, broadish shrubs
3-4 dm. tall. Leaves shiny
green. Flowers ca. 45-50
per head, faintly greenish
or olive-green, or
the anthers slightly
~~yellow~~ ochreous.

Brickellia attractylloides A. Gray

Brickellia (8)

11908 · 14 May, 1985

Same place as 11907.

Freely branched broad low
stems 2-6 dm tall
Flowers nearly white,
but pinkish outside
when young.

Eriogonum fasciculatum Benth.
var. *polifolium* (Benth.) T. & G.

6 *Eriogonum* (10)

11909 - 14 May 1935

Maricopa Co., Ariz.,
With sagebrush in
rocky soil slightly
north of *Yucca*
Thickets on 106 . and low
scrub, Fredonia.
Twp. 33 N., R. 7 W., S. 20
Elev. 4,000. Herbage
green. Leaves yellow with
(2) 3-4 rays.

Psilotropic sparsiflora
(A. Gray) A. Nels.

~~Psilotropic~~ Psilotropic sp.



16710 14 May, 1985 Mohave Co.,
Arizona. Barren clay
slopes 7 km southwest
Friedman, Twp. 41 N., R.
3 W., ca. S. 35. Elev. 1400 m.

Corolla limb fully 1 cm
wide, bright white, with
large, bright yellow
fornices

Cryptantha semiglabra
Barney

319.1
314.7
Cryptantha semiglabra ID.

11911-15 May, 1985

Mohave Co., Arizona.

With scattered piñon and
juniper on east-facing
red sand-clay slopes

ca 14 km. southeast of
Colorado City (Short Creek)

Twp. 40 N., R. 6 W., S. 12, Elev. ca. 1550 m.

Rays 15-21, often 16-18,

6-9 mm long, white on
tops, tinted with pink-
-lavender beneath. Disk
yellow.

Townsensia inc. a. Pitt.

Townsendia

10

11912 - 15 May, 1985

Same place as 11911.

Flowers yellow,
16-24 per head.

Hymenopappus filifolius Hook.
var. *tomentosus* (Rydb.) Turner

Hymenopappus (3) 162"

11913 - May 18 '84

Same place as 11911.

Herbage glaucous,

Flowers crimson -

- purple, with some
variation, retaining the
original color in drying.

Penstemon utahensis Eastw.

Flowers crimson.

(3)

11914-15 May, 1985.

Same place as 11911,

Flowers blue, the
banner with a white
spot.

Lupinus pusillus Pursh

Lupinus 6

11915-16 May, 1975

Washington Co., Utah.

On rocky, calcareous
substrate in piñon-juniper
(mainly piñon) woodland
in the Escalante Mts.

Alt. 2300 m. in a west
facing draw. Up. 425.2.
1844.5. 5.22-23. 1500 m.

Recently burnt (dead, perhaps)

but still green in some places

Stems

Solitary, 8-10 cm. high
diam. 1.5-2 mm. yellow

yellow

Leaves 1-2 mm. long

Senecio multilobatus T. & G.

Several

1916 - 16 May, 1985
Washington Co., Utah
Rocky, calcareous ridge
in pine-woodland
in the Beavertail Mts.
ca. 23 km. airline west
of St. George. Twp. 42 S.,
R. 18 W., S 22-23. elev.
1500 m. Plants characteristic
with this year's tuft
of basal leaves arising
above and between the
several ascending bran-
ching stems.

Arabis sp. var. S. Wats.

Arabis (10)

11917. 16 May, 1985
Washington Co., Utah,
Rocky, sagebrush ridge
in piñon-juniper
(mainly piñon) woodland
in the Bear River Mts.,
ca. 23 km. S.E. of the
west of St. George.
Elev. 1500 m.
Twp 42S., R. 18W., S. 22-23

Cryptantha compacta Higgins

6494.5

(7)

11956 - 16 May, 1933
Washington Co., Idaho
Sandy, calcareous soil in
pinyon-juniper woodland
in the Sawtooth Mts.,
22.53 km. airline west
of L. Starke. Temp. 42°,
R. 18W., S. 22. elev. 1500 m.
Only 4 plants seen. Leaf
solitary, terete, wetting -
Tepals white, with a
midrib brown to greenish
midstripe on the back,
Bulb coats vertically
smooth at 10X.

Allium nevadense S. Wats.
var. *cristatum* (S. Wats.) Ownbey
Allium nevadense ①

11919 - 15 Mar. 1985

Washington Co., Utah.

~~the~~ Found this night
of May along a high
way from St. George to
Las Vegas, ^{southwest slope of the} Beaverton
Mts., on 34th airline
sector of St. George.

Top, 1250, R. 18 W., S. 34.
Elev. 1300 m. just at the
upper limit of the zone.
Poritrate, wet forming
perennial, increasing
the soil ground. Appendages
white. Stipules connate,
paper, with
Euphorbia albomarginata T. + G.

Euphorbia ♂

11920 - 16 May, 1933

Washington Co., Utah.

In a valley wash along
old St. George Highway,
Highway, just at the upper
edge of the ^{sub}desert zone,
southwest slopes of the
Beaverdam Mts., ca. 24 km.
airline west of St. George.

Twp 42 S., R 18 W., S. 34.
Elev. 1300 m. Plants 4-8 dm.
tall, c. 1 m. high toward
the base. Heads yellow, rays
numerous, ca. 15.

Senecio douglasii DC.

var. *monensis* (C. Nees)

Specm

Senecio doug. mon. ⑥

11921 - 17 May, 1985
Clark Co., Nevada,
Gravelly, stony bajada
along the west side of
the Sheep Wash, ca 70'
road level.
north of Las Vegas.
Joshua - creosote zone.
Elev. ca 1400m. flowers
yellow.

Twp 155., R. 59 E., S. 17

Camissonia brevipes
(A Gray) Raven

17

6656

Camissonia brevipes (11)

11922. 17 May, 1985.

Clark Co., Nevada. Same
place as 11921.

Leaves very glaucous.

Flowers co. 7-8 cm. head,
whorls as in 11921, no
hairs, turning new color
in age.

Atrichoseris platyphylla

A. Gray

7.7

11922. 17 May, 1985.

11

11923 17 May 1985.

Clark Co., Nevada.

Same place as 11921.

Stems 1-few. Plants
short-lived, but some-
times 3-4 years. Big more
older and *Carex*
relatively few.
for nice.

Cryptantha virginensis
(N. E. Jones) Payson

Cryptantha virginensis (N. E. Jones) Payson

11924 - 17 May, 1985.

Clark Co., Nevada.

same place as 11921.
Corolla ~~with~~ blue-
-lavender, with
inconspicuous darker
guide-lines.

Langloisia setosissima
(T. & G.) Greene

Langloisia setos. (5)

11925 - 17 May, 1885
~~Clark~~ Clark Co., Nevada.

Same place as 11921.

Flowers white, ca 35-75
per head.

Chaenactis carphoclinia
A. Gray

Chaenactis

7

11926 12 May, 1985

Peru 3, the same place

as 11921. Plants prostrate
on woolly soil forming
open mats. Flowers
pink-purple with a
yellow tube.

Nama demissum A. Gray

Nama demissum

(6)

11927 17 May, 1985

Sierra Co., Nevada.

Same place as 11921. Plants
metaphitic. Corolla with
blue-lavender limb
and yellow tube.
Soil: cross-corrugations.

Phacelia formosa (Torr.)

Phacelia formosa (3)

13 May, 1927

21.6.27. 11.

About limestone cliffs
in the Greenman Canyon
ca 4 km. above the
mouth. West side of
the Sheep Mts., Lincoln -
Jefferson? and? Co. ca 2000,
m., ca 50 km. airline north
(and a bit west) of Las Vegas.
Bark with a disagreeable
odor.
Plants ca 1.5 m tall.

Twp. 15 S., R. 60 E., ca. S. 20-21'
Matured fruits becoming
maroon-purple.

Rhus aromatica Aiton
var. *simplicifolia* (Greene) Cronq.

Plant in the sun
#

11929 - 18 May, 1985

Death Valley, Calif.

Trees about the base of
north face of limestone
cliffs in Death Valley
Canyon ca 1500 m. a.s.l.
the m. 17° N. West side
of the Sheep Hills, in
the pinyon-juniper zone.
Ca 50 km. west of Death
(and a little S.) of Las Vegas

Twp. 15 S., R. 60 E., ca. 20-21

Elev ca 2000 m. Shrub ca 1 m
tall. Petals white; hypanthium
inner yellowish within.
Carpel solitary, asymmetrical.
Physocarpus alternans (M. E. Jones)
J. T. Howell

Paratypes: 11

11933. 18 May, 1985, Clark
Jr., Mex. Tafted in crevices
of rock, facing limestone
wall, known in 1921.

Cheilanthes feei Moore

fern

(3)

11931, 18 May, 1985

Clark Co., Nev. Cervices of
north-facing limestone
cliffs at the mouth of
Deadman Canyon, west side
of the Sheep Mts., at the
upper limestone horizon
Zone Twp. 15 S., R. 60 E.,
elev. 19-20, elev. 1800 m.

Flowers with pale
yellow tube and spreading
white limb. Plants
somewhat myristic

Phacelia perityloides Cov.
var. *jaegeri* J. M. Jones

Phacelia

(2)

11932 - 18 May, 1985

Clark Co., Nevada

On the Joshua Grove at the top of the bajada rising the west side of the Blue Mts., at the mouth of Cedarwood Canyon, ca 50 km airline north (and a little west) of Las Vegas.

Twp. 15 S., R. 60 E. elev. ca 1800 m. Shrubland m. tall. Flowers 5-7, bright yellow. Twigs white, leafless.

Tetradymia axillaris A. Nels.

var. *longipila* (N. E. Jones)

Storage

Tetradymia longa

(5)

11933-18 May, 1985

Clark Co., Nevada.

Usually found at the
mesa level in the Sheep Mtn.
Shrub, below the mountain
ridge, near Dayton, Co.
A few small, white
rays, below.

Las Vegas, Nev. 15° S.,
R. 60^{5.18} E. elev. 1700 m.

Rays 20-40, 1-2 cm long,
mostly rather light
blue-violet, but a
~~few~~ few pinkish white.

Machaeranthera torifolia (T. & G.)

Cronq. & Keck

appr. var. *imberbis* Cronq.

Machaeranthera (T. & G.)

1934 - 18 May, 1985
Clark Co., Nevada. About
vesicular limestone cliffs
and ledges at the east base
of the Desert Range ca 70
km. airline north (and
a bit west) of Las Vegas,
and ca 6 km. by road
south of Sheep Pass.

Twp. 13 S., R. 60 E., S. 18-19.
Elev. ca 1350 m. Heavy-
scented perennial from a
woody base. Fl. leaves dull
white.

Nicotiana trigonophylla Dunn
N. trigonophylla

Nicotiana ⑦ + 1985

11935 18 May 1985

Gar Co., Nevada.

On S. E. facing

1. Circular limestone
cliff top ridge.

- air. 1000.

Flowers blue with rounded
lavender whorls 1-2.5 dm
tall. Corolla bright
pink from base.

Penstemon polystachys

Brandegee

Penstemon ⑪

11936 - May, 1983
Lincoln, ^{Colo.} ~~Colo.~~
Sivale is located just at
the south base of the
Sheepfoot, near the
mouth of a long draw
50 km. south of Salina,
Kan. on the south
facing side of the draw
and 27 km. north of
Sheep Foot.

Twp. 11S., R 61E., S. 6-7.

Astragalus soboliferum A. Gray
det. R. C. Barneby

astragalus L.

22 May, 1985 Clark Co., Nev
#11937.

Woolly ~~Psilotum~~
desert ca 65 km south
of Alamo, and 2 km. south
of Lincoln Co. line.
750-800 m. Woolly
branched, rounded soft
shrub mostly 3-4 dm
tall ~~Psilotum~~ ^{Woolly}
Ray (1). Stems
cottony-white, leaves green.
Top. 125°, R. 63°, S. 7

Psilotrophe cooperi (A. Gray)
Greene

Psilotrophe

Cooper

(8)

11938 22 May, 1985

Same place as '93).

Intricately branched,
woody-based, taprooted
perennials mostly 2-4 cm
tall. Flowers 5-6,
pink-lavender.

Stephanomeria paniculata
(Torr.) Nutt.

Stephanomeria

+

11939 - 234" sp. 1985
Washington Co., Utah
in a white rock
between Franklin Park
along the southeast base
of the Pine Valley Mts.,
ca 5 km. by road north-
west of ~~Leeds~~ Leeds, Town.
4050 ft., Town. 35-36.

Elev. ca. 1200 m.

Flowers 25-45, lemon-yellow.
Leaves bright green.

Hymenopappus filifolius Hook.
var. *megacephalus* Turner

Hymenopappus (10) f. 1

11940 23 May, 1985
Washington Co., Utah.
Same place as 11939.
Rays 28-40, bright
lavender, ca 1.5+ cm long

Erigeron utahensis A. Gray
var. *utahensis*

Erigeron utahensis 7

11941 24 May, 1985
Conquist & Elizabeth C
Neese - Washington
Co., Utah. Sandy soil
overlying basaltic
deposits, Cologoyne,
Zone, ca 15 road km
north Ft. George.
Twp. 41 S., R16 W., S. 15.

Elev 1200m.

Flowers pinkish.

Eriogonum deflexum Torr.

Eriogonum (7)

11942 - 24 May 1985
Conquist and Elizabeth C.
Merce. Washington Co., Wyo.

Pinyon-juniper woodland
ca 48 road km north of
G. H. Ranch and 16 road km.
south of Enterprise.

Twp. 38 S., R. 16 W., S. 22

Elev. ca 1750 m.

Sandstone substrate.
Leaves opposite. Flowers
pink, some with
6 corolla lobes. Plants
forming loose mats.

Phlox griseola Wherry

Perito 26-1

Phlox griseola 225.2 (5)

11943 C. & H.

24 May, 1985. Washington
Co., Utah. On talus slopes
substrate in young juniper
zone just south of Shoa
Creek, ca 16 road km. west
of Enterprise. Twp. 37S,
R. 18W., S. 5
Elev. ca 1700 m.
Heads yellow. Rays 7-14

Senecio multiflorulus T. & G.

243.5

Senecio

4

11944 C + N. 24 May, 1985
Washington Co., Utah.

Moist sedge-meadow along
Shoal Creek, ca. 18 km. west
of Enterprise Twp. 37S., R.
18 W. S. 6

Elev. ca. 1700 m.

Plants abundant. Flowers
pink-purple with yellow
filament-like

Dodecatheon pauciflorum
(Durand) Greene

j

Dodecatheon

6

244-6

24 May 1975

C. J. N. 11945, Washington

W. Utah. On *Bryosoma*
substrate in open piñon-
juniper woodland, thirty
south of Shoal Creek, ca 17+
airline km. west of Enterprise.
Twp. 37 S., R 19 W., S. 1.

Elev. ca. 1800 m.

Plants densely tufted.
Leaves sanguine. Flowers
white to pink.

Phlox tenuiloba Bailey

Phlox tenuiloba (2)

CSH 1946 20 May, 1985

Washington Co., Utah

Gravelly soil on gentle
sagebrush slope ca 10 km
east-northeast of Enterprise,
near the Iron County line.

Twp. 37 S., R. 16 W. S. 1 or 2.
Elev. ca 1700 m.

Stems several from a
taproot and somewhat
branched caudex,
~~base by ascending~~
ascending.

Astragalus eremiticus

Sheldon

det. R.C. Barneby

Astragalus (8)

11947 25 May, 1985

Washington Co., Utah

Rather heavy gray soil in a
draw in *Juniperus*
Scopulorum woodland
along the North Fork
of the Virgin River, ca
25 km by road, middle of
Navy Lake. Topl 3950, R. 9
W., S. D. Elev ca. 1850m.

Stems numerous, ascending,
clustering on often woody
base. Flowers blue-purple.

Pentstemon linarioides A. Gray
var. *spicatus* A. Gray

Flowers blue-purple

11948-25 May, 1985
Washington Co., Utah.

Oak woodland ca 3500 m
dry road south of Navajo
Lake. Twp. 395, R 9W,
ca. s. 34.

Elev. ca 2000 m.

Perennial with fibrous roots
attached to clusters of tubers.
Flowers blue, the upper
petals whiter with blue
veins.

Delphinium nuttallianum Pritzel

Delphinium

(5)

3-11

11949 - 25 May, 1985
Washington Co., Utah.

Same place as 11948.

Perennial from slender
cogging rhizomes. Flowers
white. the banner with
an epipetalous ^{anterior} ~~posterior~~
fractilous.

Lathyrus laetivirens
Greene

Lathyrus (5)

11950-26 May, 1985

Mahave Co., Ariz. ~~Ridge~~

Rolling, gravelly sagebrush
land in Wolf Hole Valley
ca 5 road km. south of
Mt. George, ~~NE~~ Utah

Twp 38 N. L. 12 W. S 2
Elev. ca 1600 m.

Perennial, spreading by
creeping roots. Heads yellow.
Ray 8, occasionally up
to 13, mostly 1-1.5 (to nearly
?) cm long.

Thelesperma marginatum

A Gray

var. *marginatum*

7488.1

Thelesperma (6)

11951-26 May, 1985

Same place as 11950.

Taprooted perennial.
Rays white above, tinted
with brownish pink
beneath, from ca 13 to
sometimes as many as 22.

Townsendia incana Nutt.

Townsendia

(4)

11952-25 May, 1985
Same place as 11950

Taprooted perennial.
Herbage strongly
glaucous. Flowers
purple.

Caulanthus crassicaulis (Torr.)
- Wats.

Caulanthus ④

11953 - 26 May, 1985

Mohave Co., Arizona

Gravelly, somewhat sandy
soil in open juniper
woodland ca 56 road

approx. south of Ft. Verde,
Utah. Trap 38 N., R. D.W.,
S. 20. Elev. ca. 1600 m.

Flowers white, with
pale yellowish tones.

Cryptantha cinerea (Gunn)

Cronq.

ad. aperta (Greene) Cronq.

Crypt. cinerea v. shortia 5
92.7

11954, 26 May, 1985, Mohave
Co., Arizona - Pinon-juniper
woodland in Mexican Cliffs
region on the west ^{out} of the
of the Colorado Plateau,
loc. ¹⁰⁰ (2) road km. 3 south of
Mt. Kosog, 116° and ca 14
km. east of Mt.
Tremblor. Twp 35 N.,
R. 9 W., S. 29. Elev. ca 1900
m.

Plants mostly single-
stemmed and apparently biennial,
sometimes few-stemmed and
short-lived perennial; no separate
rosettes seen. Heads yellow.
Ray l. 5-7 cm long, 8-14, often
13 in number.

Hymenoxys cooperi (A. Gray) Cockerell
var. *canescens* (D.C. Eat.) K. Parker

(7)

530.3

Hymenoxys

11955. 26 May, 1985

Mohave Co., Ariz. Same
place as 11954. Flowers
mostly 24-49, yellow.

Hymenopappus filifolius Hook.
var. *lugen*. (Greened) Jepson

Hymenopappus

1D

11956-26 May, 1985
Modave Co., Coliz. Same place

as 11954. Flowers
blue-purple

Penstemon thompsoniae
(A. Gray) Rydb.

11

Penstemon 31

11957, 27 May, 1985

Mohave Co., Arizona

With sagebrush in rocky,
volcanic soil at the edges of
pinyon-juniper woodland,
ca 12 road km. west of Nixon
Springs campground at the
west base of Mt. Turnbull,
and ca 100 road-km. south
of Lt. George, Utah. Top.
35°11', 111°11'. S. 21 - . Elev.
ca. 1950 m. Stems 1-several.

Herbage glaucous. Flowers
rather light blue, verging
to lavender or lavender-purple.

Penstemon pachyphyllus A. Gray
var. *coeruleus* (M. E. Jones) ex Rydb.

Pl. 10 549.8

11958 - 27 May, 1985

Kane Co., Utah. In deep sand,
Coral Pink Sand Dunes.

Twp. 43 S., R. 4 W., S. 27
Elev. ca. 1850 m.

Plants extensively
creeping beneath the
surface. Banner white,
wing lavender-tinged,
keel dark purple.

Psoralea lanceolata Pursh
var. *purshii* (Vail) Piper

Psoralea

(9)

11959 - 27 May, 1985.

Same place as 11958.

Plants extensively
collapsing below the
surface. & flowers
rather dull blue -
lavender, the banner
with a large nearly
white area below the
middle.

Sophora stenophylla A. Gray

Sophora ⑧

1960 - 30 May, 1985
Millard Co., Utah Shaly
limestone slopes in the
sagebrush-juniper zone
at the pass in the ~~east~~
Confusion Range along
U. S. Highway 6, ca 195
road km. west of Delta,
and ca. 35 road km. east of
the Nevada line. Elev.
ca. 1900 m. Only one
plant seen. Flowers
^{lavender} purple, not blue, turning
dark blue-violet in the press.

Festuca confusa M. E. Jones

Festuca ① 87.1

11961 - 30 May, 1985
Millard Co., Utah. Same
place as 11960. Heads discoid,
yellow. All plants of
this small size.

Machaeranthera grindeliioides
(Nutt.) Shinners
var. *depressa* (Maguire) Cronq.
+ Keck

M. Grindel. depresca (5)

11912-30 May, 1985.

Weld Co., Etah-Lane
place as 11960.

Stems few, erect or
ascending. Flowers
small, the limb ca 4-5
~~mm~~ mm wide, white
with yellow tawines.

Cryptanthia rugulosa Payson.

Payson.

Growing with 11963, 11964, etc.,
and appears only slightly
less hairy, less erect, limb per-
sist, blooming later, and
with longer stolons and shorter
rhizomes.

George Coyle. (5)

11963 - 30 May, 1985
Millard Co., Utah.

Same place as 11960.

Plants dwarf, with
erect, tufted stems and
small ~~—~~ flowers,
the corolla - limb ca 4-5
~~mm~~ mm wide,
white with yellow
~~for~~ fornices.

Cryptantha compacta Higgins

Spec of Crypt. ⑩

1964-30 May, 1985. Millard
Co., Utah. with scattered
junipers in sandy, gravelly
soil at the west base of the
Confusion Range, ca. 7
road km west of the
Pass along U. S. Highway 6,
ca 28 road km east of the
Nevada state line, and
ca 112 road km west of
Delta.

Elev. ca. 1700 m.
Flowers bright yellow.

Linum subteres (Trel.)

H. Winkler

Linum subteres (Trel.) 91.8

1196 5-30 May, 1985

White Pine Co., Nev.

Rocky, gravelly, calcareous soil with piñon and juniper at Sacramento Pass, shortly north of Wheeler Peak.

Elev. just under 2200m.
Herbage glaucous
Flowers bright blue.

Penstemon pachyphyllus A. Gray.
Ryd.

var. *congestus* (M. E. Jones) N. Holmgren

226.8

Penstemon Ryd. (5)

11966-30 May, 1985

Same place as 11965.

Herbage somewhat

glaucous. Flowers

~~lavender~~
~~purple~~, not ~~blue~~ blue.

Stems 1- several

Flowers lavender-purple (not blue) in life, turning blue
blue-violet in the press.

Penstemon confusus M.E. Jones

Penstemon cf. 11960 (16)

11967-30 May, 1985

Same place as 11965.

Same pale lavender,
wings whitish, keel
purple.

Astragalus calycosus Torr.
det. R. C. Barneby

5

1

Astragalus

1968 31 May, 1983
Nye Co., Nevada.

On rocky, volcanic sub-
strate in piñon-juniper
woodland at Currant
summit, ca 6000-6500
m., southwest of Ely.
Twp. 11 N., R. 61 E., S. 13.
Elev. just over 2100 m.
Plants loosely tufted, but
apparently also spreading
below ground. Petals white,
darkly lined. Stems ca 10.

Arenaria kingii (L.)

J. M. E. Jones

Arenaria ⑧

11969-31 May, 1981
Nye Co., Nev. Same
place as 11968. Plants
tending to grow in
rock crevices, often
forming *Petropeltis*-like
mats, *Fissidens* pale
and *Leptodon*.

Troffman ②

317.55

11970. 31 May, 1983

Mo Co., Tex. with a bridge
on gravelly alkaline gentle
slope below the mouth
of Tree Canyon, just to
the west of the Laramie
Range. Twp. 64, R. 51. E.,
S. 24. Elev. ca. 1500 m.

Flowers dull purplish,
leaves glaucous.

Ascopias

Barnaby

Ascopias T. sp.

1195 - 31 May 1985

Yuma Co., Nevada. Stony
(limestone) south slope,
with sagebrush, along
the Spring Wash, on
the west side of the Quinn
Canyon - Forest Range
junction. Twp 5 N., R.
56 E., S. 23. Elev. 1650 m.
Plants 3-4 cm tall.
Mostly a single stemmed,
approximately 1.5 cm in
width with (6) rather
small heads. Flowers white.
Cirsium neomexicanum A. Gray,
sens. lat.

Cirsium

7

11972 - 1 June, 1985
Nye Co., Nev., Roslyn
reddish, shagolitic south-
west slope in piñon-
scrubland at Cheevey
Creek Forest Camp,
Quinn Canyon Mts.

Twp. 4 N., R. 56 E., S. 36
Elev. ca 2100 m. Plants
long-lived perennial,
typically with several
or many lat, ascending
or nearly prostrate stems,
or some plants single-
-stemmed and more or less
erect. Corolla pink
overall ca. 6 mm wide
white with yellow center.

11972 - contd.

Buttlets strongly
roughened and slightly
the margins not in
contact, the broad
base somewhat pubescent
with minute white
margins.

Cryptantha flavoculata

(A. Nees.) Payson

Cryptantha flavoculata 10

11973 - 1 June, 1939. Mys
Co., Nev. ~~Same~~ Same place
as 11972. Leaves gray-green.
Only one plant seen.

Lomatium parryi (S. Watson.)

J. F. Macbride

June 1939 (?)

11974-1 June, 1985, Yule
Co., Colo. Basaltic, rhyolitic
(soil in spruce woodland
about and above the
Cherry Creek Forest Camp
in the Gunnison Canyon
Mts. Twp. 4 N., R. 56 E.,
S. 36, Elevation ca. 2100 m.
sites just below, very
barely clumped on a
tapered, granite table
Lavender-pinkish, the
petals white, open in the
morning and at night,
closing with warming sun.
Abronia fragrans N. H.

Abronia 5

11975 | June, 1985.
Nye Co., Nevada. In
loose, sandy soil associ-
ated with rhyolite,
with scattered pinyon,
juniper and sagebrush,
along the southeast side
of the Golden Canyon Mts.
Twp. 3 N., R. 56 E., S. 25-36.
Elev. 2000 m.

Plants prostrate, freely
branched, forming small
to rather large mats,
extensively creeping below
ground over talus and
among glacial and sand-
appended white

Expo. S. 30° W. 1000 ft.

Eng. 6. 1985. (D. 06. 75)

1. 11936 - 1 June 1936. Alpine
Co., Nev. Sagebrush desert
just east of the base of
the Pine Canyon Mts. and
just north of Cherry Creek
and cabin road turns south-
west of the mts. side.

Page 35-77, bright
blue. lavender.

Erigeron argentatus A. Gray

Erigeron argent

(10)

33

1978 - 1 June, 1985, Nye
Co., Nevada, sandy sagebrush
habitat in White River Valley,
ca 5 km west of Hot Creek Butte
and ca 16 miles west -
- south east of Sunnyside
Twp. 61^W, R. 60^E, S. 15-22

Elev. ca 1600 m.

Flowers white with a
yellow eye, small for
the section, the limb
only 3-5 mm wide.

Cryptantha welshii

K. Thorne & Higgins

Cryptantha ^{welshii} (10)

11979 1 June 1935

Nye Co., Nevada. Sandy
sagebrush desert in White
River Valley ca 5 km.
west of Hot Creek Butte,
and 16 road house west
- southwest of Sunnyside.

Twp. 6 N., R. 60 E. S. 15-22
Elev. ca 1400 m.

Herbage grasses. Flowers
pink, lavender, whitening
to blue.

Pentstemon whitii (L.) Benth.

P. mucronulatus (L.) Benth.

11980 2 June, 1970 S. Nye Co, Nevada
Along the roadside in *Distichlis*
- in isolated flats in
the White River Valley ca
7 km. northeast of Hot
 Creek Butte and road
hey west of Sunnyside
junction on Highway 318.
Twp. 6 N., R. 61 E. S. 8
Elev. ca. 1600 m.
Stems numerous, clustered on
a stout taproot. Flowers
pink-lavender, the distal
half of the wings white.

Asclepias

55.7

1950 - 2 June 1950

Elko Co., Nev. Along
a sandy, alkaline low
ridge in the desert,
White River Valley,
between Hot Creek Butte
and Sunnyside. Twp.
617, R. 61 E., S. 3. elev.,
ca. 1600 m. Stems clustered
on a short taproot. Flowers
pink-lavender, showing
white in the distal half.

Astragalus foanus M. E. Jones

det. R. C. Barneby

6N, 61E S. 3

10

11981 - 2 June, 1981

Nye Co., Nevada.

Land plan as 1980

Petals, white with fine
dark purple veins and
a central blotch ^{green or} bracted,
petals yellow-green
glab. also tending to
be greenish-yellow toward
the tip.

Frisia albomarginata S. Wats.

Endemic ⑨ 211

11952 - 2 Jan 1955
Co. Kern, same
place as 11950
Flowers 26-43, yellow

Hymenopappus filifolius Hook.
var. *nanus* (Rydb.) Turner

Hymenopappus 10)

11983 - 2 June 1985
Alta Co., Nevada. Same
place as 11980. Lays 12-20
white or whitish above,
tending to be dull
ochreous beneath.

Townsendia jonesii (Beaman,
Reveal

Townsendia ③

11952 26. 1985

11954 - 2 June, 1985

Elko Co., Nevada, same

place and 2600

Raup 10-18, purple.

Machaeranthera leucanthemifolia
(Green) Greene

Machaeranthera (5)

1985-2 June, 1985, Hg Co,
Tunisia, Lamjedda 11700.

Plants spreading by long,
calyptrocaulous stolons. Scapes
more or less erect at
anthesis, prostrate
in fruit. Perianth
purple pinkish.

Abronia nana S. C. Johnson

Abronia 10

11986-2 Jan, 1985

~~11985~~ Baca Co., Nevada.
Same place as 11980.

Stems widely ascending
or prostrate with
upturned tips. Flowers
sixty stellate leaves.

Astragalus humistratus A. Gray
var. *humifagus* (Rydb.) Baile

11986-2 Jan, 1985 (8)

11387. 3 Dec. 1915

Finical Co., Inc.

Rocky side recess on sandy
soil ^{at 1000 ft. elevation}
desert in ca 33 m.s.i. hem.
Mortician of Alabama.

Trig. 45., R. 62E., S. 19
Elev. ca. 1400'.

Per. in a dense
colonies, with the
larger plants being branched
and spreading.

Pittonwhite, writing
in the morning sun.

Oenothera californica S.Wats.

733.74

6

11988-3 June, 1985.

Lincoln Co., Nevada.

Sandy soil in gently sloping mixed desert shrub community, 2 1/2 miles Flat, rd 33 road line northeast of Caliente.

Twp 15, R. 22 $\frac{1}{2}$, S. 1.

Elevation 4,300 m.

Flowers 4-5 cm, pink
in sunlight.

Stephanomeria exigua Nutt.

Stephanomeria (3)

1989-3 June, 1989 - Lincoln
Co., Nevada. In sagebrush
and scattered junipers
on gravelly, sandy soils
in the desert. Mtn.
Valley Wash, ca 12. road
km. northwest of Lassen.
Twp. 35., R. 57 E., S. 27.
Elev. ca 14,000 ft.

Plants varying from single
stems and apparently
annual to evidently
perennial, with several
generations. Flowers
white with a yellow eye,
small for the section, the
limb only 3-5.5 mm wide
Cryptantha *Wolstii* K. Thunb. + 11
Cryptantha *Wolstii* (10)

11990-3 Jan. 1985

Lincoln Co., Nevada

Granitic, sandy soil in
pinyon-juniper woodland,
ca 17 km. airline east of
Caliente. Twp. 45., R.
69 E., S. 7. 1/2 sec., ca 1300 m.

Stems loosely clustered,
widely to strongly
ascending, leaves gray.
Flowers blue-violet,
ranging to mainly by
so. to purple.

2nd frag.

Penstemon linarioides B. Gray
var. *albus* A. Gray

Flowers

(8)

11991 - 3 June, 1955
Lander Co., Nevada,

Same place as 11990.
Flowers clustered on a
Tapered,

Astragalus tetraphyllum

A. Gray. Det R. L. Barneby

Astragalus ④

11992 - 3 June, 1985

Lincoln Co., Nevada,

Pinyon-juniper
woodland in the Cedar
Range, ca 1900m. air line
west of Caliente, Twp.
U.S. R. 59 E., S. 24.

Elev. ca 1800 m.

Herbage glaucous.
Flowers bright
pink-purple, with
some variation to darker
and lighter shades, but
turning darker blue-violet in
the press.

Pentstemon ciliatus M. F. Johnston

Pentstemon sp.

1173 - 4 June, 1935. Lincoln
Co., Nevada. Sandy clay

soil about white clay
is yellowish
soil & a distinct
of *Phacelia*. Twp. 2 S., R. 68
E., S. 10. Elev. ca. 1500 m.
Plants - ~~thinly~~
spreading by a creeping
root. Flowers white,
multi'g in the morning
sun.

Oenothera pallida Lindl.
var. *pallida*

1

Revolutions politiques

11994. 4 June, 1985

Pineola Co., Sonora,

Paraje de la Peñoncita,

1 mi. N. 2 km. east of

ca. Twp. 25, R. 68E.,

S. 1/2. Elevation 1500 m.

Plants appear clumped
and annuals frequent.
Short "tallied" annuals

short wheat, short,
tall, etc., are numerous.
A new larger and
tallly spreading, ex-
tremely variable. Flowers
white, with the basal lobe
the largest.

Oenothera deltoides Torr. & Fremont
var. *Piperi* Munz

Oe. deltoides, var. ④

11995 - 4 June, 1964. Lincoln
Co., Oregon. On south side of
Creston Ridge, south of
Creston and from east of
Creston, Twp. 22, R. 63 E.,
S. 10. 1000' elev.

Flowers white, turning
to pink in the morning
sun.

Camissonia boothii (Dough.) Raven
subsp. *alyssoides* (Hook. & Arn.)
Raven

— *Camissonia boothii* (5)

11996 4 June 1985
Roadside ^{Iron Co.} _{Utah}
Sagebrush desert along
Utah Highway 56, ca 33
miles east of the
Nevada state line.

Twp. 35S., R. 17W., S. 21.
Elev. ca 1,520 m

Plant taprooted, apparently
a short-lived perennial.
Central stem very short,
stocky, and erect, or
scarcely developed. Lateral
stems prostrate and many
so, spreading and forming
a rosette. Flowers white,
withering pink.

200

Oenothera lichtweldae Torr. & Fremont
var. *piperi* Munz

indefinibile (5)

11997 9 June, 1985

Summit Co., Utah.

White sandstone and fine-grained

concretionary sandstone

Calcareous limestone, ca

3 ft. above base of sandstone.

~~Glauconite~~ - fine sandstone

Turf

Common herb. The species

is the most abundant

at the right site to

Wrightia - *Hakea* - *Callia*

which only inconspicuously

mixed with yellowish and

tanish - brownish material.

Hakea patens (Nutt.) R. M. Smith

var. *harrisonii* S. Gerber

Hakea patens 3'

1998 - 9 June 1931.
Summit Co., Little Raton
area. Small associated
with calcareous dolomite
in red, high-grade fine
to 3' long, mostly
Coalition.

Plant.

Flowers white, matting
in flower, wing + awl.
Plants 1-2' tall.
~~—~~ Creeping below
ground.

Oenothera pallida Lindl.
var. *latifolia* Rydb.

2000 - 10

11999 A.C., David Snyder,
and Lorraine Aboliate -
- Caruso 3 May, 1986
Sussex Co., New Jersey,

Wet seepage areas and
streambanks in hemlock-
hardwood-white pine woods.

Elev. ca. 300 m.

Corolla very deep-seated.

Petals yellow, with variable
orange to orange-red glide
lines toward the base.

Claytonia virginica L. var. *virginica*,
the phase called *Hammondiae*

Claytonia (2) *Kalmbackae*

11/10/2020 Denver 10/20/1

7000 ft. 10000 ft. 23,22

2000 ft. 10000 ft. 10000

10000 ft. (10000 ft.) .70

20000 ft. (10000 ft.) 3.25

6000 ft. 10000 ft. 10000

10000 ft. 10000 ft. 2.55

10000 ft.

13 from Telluride

airline ticket .60

Delaware bridge .25

GW Bridge .75

H Hudson Phway .90

Hutch Phway .25

admission, W Park .535

2 June 1985 8525.5
49 x

humpid: 66.1

Model A/200 20.0

3 June 1966 10:10

10 725.0

Summer

178

54.

Motel Caliente 22.00
4 p.m. - h. Caliente

128.80
8.90
Motel Phoenix 15.00

Motel Caliente 22.00
15.00

5:00 a.m. Ma

Motel Caliente 15.00
7:00 a.m.
Motel Caliente 15.00
9:00 a.m. 15.00

Motel of Laramie 24.43

Friday, could

Motel St George 25,99

Friday - left G. 7457.5

jet 86.5

roll cr. 83.1

sew jet. 498.9

Poverty Jct 516.25

Mt + ... 528.9

Nixon spgs. 7539.7

27 11.4

11.4

St George 246.4

jet 551.4

jet use. Niagara 556.9

jet to Lake City 5.6

St. George 11.6

get St George. 23.99

26 May - LV St G. 7728.6

arr Provo
Motel Springville 25.00

29 May - Provo-Sg.

Motel Spring 25.00

30 May

lv Provo-Springville 8023.2

Delta 8121.7

Heads Inn 8259.7
Ely 8273.3

motel 23.54

31 May - lv Ely 8279.3

get 5318 302.4

Circus 335.0

Amusement 344.8

get bus - 14.5 63.5

24 May, Lk. St. G.	7055.2
Keyo	7073.0
JCT	795
Jct. Grass Valley	86.4
56	7134.5
Jct.	7167.1

24 May, Lk. St. G.	7193.5
Forest line	245.5
<u>to Cedar City</u>	7337.3

Motel in Cedar	19.55
<u>Dinner with Niles</u>	19.08

25 May, Lk. Cedar	7337.3
Enter Kan Co	7360.0
at Youngster	67.9
summit, 11,12	5
at the summit	69.75
at Hwy 1	3923
highway 10	701.0

Doris Bradlow

West - Sept 7 Bat -

Cal. Brad

Gold, g. vs.

S.E

94118

213-825-3619

Shirley Warren

1
25

9-Logan	Price	5.569
Motel Brighton	Price	15.00
9 May. Brighton City	Price	57.20
Motel		15.00
white gas. Price		11.94
Brayton 11.00		100.50
on way. 17.00		100.50
10 May - Price		57.57
3 ft George motel		23.99
11 May - Mt George	6030.	
(center)	6031.2	
18, 17, 18, 16, 16, 20, 20		
	-	6038.4
Wolf Hole Mt. fct.	6034, 6	

10 x 12 Magnification 233 x
for 2 mm

St. George

Jets 6190.4

14 May

231.1

Kandy 11.62 7.3

Jets 74.6

Kandy

Motel

18.99

15 May. Kandy 6328.6 miles

Service job 51.79

6336.1 freedom

6336.6 Malawal

72.0 sh 2 h

6390.85 -unes. legume

6461.8 - 7.5 h 1 ent. 10

UWMP Knolls ✓
Rockup Canyon ✓
Kanab Point ✓
Powell Plateau
De Motte Park ✓

Pakoon spgs ✓ Little Jester Knoll
Oak knolls ✓ Antelope Knoll
Last Chance Cany. ✓ The Grand Start
Poverty spgs. ✓ Dutchman ^{Draw} spgs.
Poverty Knoll ✓ Sullivan Draw, +
Jones Hill -o Mustang Knoll ✓
St. George Canyon ✓ Wolf Hole Mt. ✓
Sullivan Draw, S. W. H. in East
Little tents ✓ Caminwall Canyon ✓
Russell spgs. ✓ Cap Rock + ✓
Moran Knoll ✓ Purgatory C. ✓
Flat Knoll ✓ 12 Land M. o
Yellow House Pk. ✓
Pecic Canyon

3 May. W.P. 3284.1

Tolls - Indiana State Hwy .25

Off. - Pike 3.30

.50

Motel 19.35

4 May - Wesscon, Ohio 3901.3

Tolls Ohio Pike .70

Indiana Pike 4.25

Illinois .30

Motel - Lincoln, Neb. 19.30

5 May - Lincoln, Neb. 4627.7

Motel - Rock Springs, Wyo. 22.88

6 May - Rock Springs, Wyo. 5338.

Motel - Logan 23.87

7 May - Logan - 5542

" " Motel - Logan 23.87

Mt. Turnbull NE

1800, SE

Mt. Logan

Tuckup Canyon

Heaton knolls

Vulcan's Throne

Littlefield ✓

Car Spgs. ✓

Lost Spg Mt. -

Colorado City ✓

Fredonia ✓

Shinnemee ✓

House Rock Spgs ✓

Jacob's Lake ✓

Big Spgs. ✓

Red Canyon ✓

12,000. 3 May, 1986. A. :
David Saylor & Lorraine Abbott.
C. Co., Sussex Co., N.J.
Sunrise Mt., on Kittatinny Mt.
elev. ca 500 m. Limestone
substrate, in natural low
oak woods. Plants 6-15 dm,
colonies not well branched,
petals white.

Amelanchier (2)

May 4/1986 6'

Welsh 801-378-2289
Heese 801-277 0781,
4478 Zarahemla Drive
SLC 84124

Barkman 801-750 1000

R 156

John 714-773-3587

516 Moonbeam

Placentia, Calif.

714-773-2246 affig

Dicentra canadensis

1 leaf - blue green
glossy

" *Overbeckia* 2 lbs.

yellow yellow w/ glaucous

3 May 86

17200 - 17420 miles

~~Eric~~

Nivra

